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10/637,144	08/08/2003	Donald B. Gage	DC-05201	3411
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HAMILTON & TERRILE, LLP			EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/637,144	Applicant(s) GAGE ET AL.	
	Examiner Adam R. Giesy	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1 and 18 are objected to because of the following informalities:

Regarding claim 1, Examiner asserts that line 12 should read – an Optical Power Calibration (OPC) engine...-- instead of “an OPC (Optical Power Calibration) engine...”.

Regarding claim 18, Examiner asserts that line 5 should read – an Optical Power Calibration (OPC) engine...-- instead of “an OPC (Optical Power Calibration) engine...”.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-10, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurobe et al. (hereinafter Kurobe – US Doc. No. 2006/0067190 A1) in view of Masaki et al. (hereinafter Masaki – US Pat. No. 6,526,014 B2).

Regarding claim 1, Kurobe discloses an information handling system comprising: processing components operable to generate information for storage on an optical medium (see Figure 1, elements 9, 11, and 13-16); an optical disk drive interfaced with the processing components and operable to process the information for writing to the optical medium (see Figure 1); a write strategy table having plural write strategies, each write strategy associated with one or more optical medium types (Figure 6); a laser

associated with the optical disk drive and operable to illuminate the optical medium to burn information onto the optical medium with a write strategy associated with the optical medium or to read information from the optical medium (Figure 1, element 5); and an OPC (Optical Power Calibration) engine interfaced with the write strategy table and the laser (see page 11, paragraph 0141), the OPC engine being operable to store the adjusted write strategy to a non-volatile medium for use in subsequent writes (see Figure 1, element 17a). Kurobe does not disclose test writing at distributed locations on the medium. Kurobe also does not disclose the use of a hard drive as a non-volatile medium.

Masaki discloses an optical storage apparatus including a write strategy table (see Figure 6A, elements 190, 196, and 198) and an OPC engine that performs test writes and reads at plural distributed locations of the optical medium, the test writes having predetermined variations of the write strategy associated with the optical medium, the OPC engine adjusting the write strategy to write the generated information to the optical medium based on the quality of modulated signals read from the test writes at the distributed locations (see column 16, lines 31-65).

Kurobe does not distinctly claim a hard drive being the non-volatile memory. Kurobe discloses the claimed invention except for the non-volatile memory being a hard drive. It would have been an obvious matter of design choice to replace the ROM with a hard drive (as both are forms of non-volatile memory) since the applicant has not disclosed that using only a hard drive solves any stated problem or is for any particular

purpose and it appears that the invention would perform equally well with the use of a ROM as non-volatile memory storage.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the mutli-medium writing device as disclosed by Kurobe with the multi-zone test writing method as disclosed by Masaki, the motivation being to further improve the reliability of the ZCLV recording as disclosed by Kurobe across multiple forms of media.

Regarding claim 2, Kurobe and Masaki disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Masaki further discloses an optical recording device in which the OPC engine test writes are to an inner diameter track, middle diameter track and outer diameter track of the optical medium (see Figure 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording device as disclosed by Kurobe with the optical recording device that test writes to multiple designated disc circumferences as disclosed by Masaki, the motivation being to better configure the power settings of the optical recording laser to write on the various diameters of the optical disc.

Regarding claim 3, Kurobe and Masaki disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above. Masaki further discloses that variations of the write strategy comprise write power variations and wherein the OPC adjusts the write strategy to write the generated information to an average of the write power at each of

the inner, middle and outer diameter tracks that provided a modulated signal having the least amplitude and jitter variations (see Figure 17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording device as disclosed by Kurobe with the write strategy that uses an average of the test write power variations as disclosed by Masaki, the motivation being to better configure the power settings of the optical recording laser to write on the entire surface of the optical disc.

Regarding claim 6, Kurobe and Masaki disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above. Kurobe further discloses that the optical medium comprises a CD-RW disc (see page 1, paragraph 0006).

Regarding claim 7, Kurobe and Masaki disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Kurobe further discloses that the system further comprises volatile memory interfaced with the optical disc drive and operable to store the adjusted write strategy for use on a subsequent write to an optical medium of the same type (see Figure 1, element 17b).

Regarding claim 10, Kurobe discloses a method for re-writable optical medium write power calibration, the method comprising: determining a write strategy from an identification code of an optical medium (see Figure 27, elements 51-53). Kurobe does not disclose test writing and plural locations, or averaging the test writing results to modify the write strategy.

Masaki discloses an optical device that performs test writes and reads at plural locations distributed across the optical medium, the test writes having predetermined

Art Unit: 2627

variations from the power setting of the write strategy (Figure 12); analyzing the modulated signal read from each test read to determine the power setting variation at each location having the least amplitude and jitter variations (Figure 17); averaging the determined power setting variations for the locations to determine an adjusted write strategy (see Figure 18B); and writing information to the re-writable optical medium with the adjusted write strategy (see Figure 18B).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording method as disclosed by Kurobe with the plural test writing and averaging as disclosed by Masaki, the motivation being to better configure the power settings of the optical recording laser to write on the various surfaces of the optical disc.

Regarding claim 13, Kurobe and Masaki disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above. Kurobe further discloses that the optical medium comprises a CD-RW disc (see page 1, paragraph 0006).

Regarding claim 14, Kurobe and Masaki disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above. Masaki further discloses that the re-writeable optical medium comprises a medium having an unknown identification code and the write strategy comprises a generic write strategy for use with optical media having unknown identification codes (since Masaki performs the test writing on any medium, Masaki will apply the same test writing procedure to a disc of unknown identification code – see default write powers).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording method as disclosed by Kurobe with the plural test writing and default write power as disclosed by Masaki, the motivation being to better accommodate more disc format types.

Regarding claim 15, Kurobe and Masaki disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above. Masaki further discloses that the re-writable optical medium comprises a new medium and the write strategy comprises a generic write strategy associated with a type of re-writable optical medium having an unknown identification code (since Masaki performs the test writing on any medium, Masaki will apply the same test writing procedure to a disc of unknown identification code – see default write powers).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording method as disclosed by Kurobe with the plural test writing and default write power as disclosed by Masaki, the motivation being to better accommodate more disc format types.

Regarding claim 16, Kurobe and Masaki disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above. Kurobe further discloses storing the adjusted write strategy in volatile memory; and writing information to another re-writable optical medium having the identification code by using the adjusted write strategy (see page 21, paragraph 0241 – note that the document refers to the ROM, Figure 1, element 17b, when the RAM is clearly marked as element 17b in Figure 1 – the Examiner will interpret this to mean RAM as depicted in Figure 1).

Regarding claim 17, Kurobe and Masaki disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above. Masaki further discloses that performing test writes further comprises performing test writes at an inner diameter, middle diameter and outer diameter location of the optical medium (See Figure 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording method as disclosed by Kurobe with the optical recording method that test writes to multiple designated disc circumferences as disclosed by Masaki, the motivation being to better configure the power settings of the optical recording laser to write on the various surfaces of the optical disc.

Regarding claim 18, Kurobe discloses a system for re-writable optical medium write power calibration, the system comprising: a write strategy table associating re-writable optical medium identification codes and write strategies, each write strategy having a write power setting (see Figure 6); and an OPC (Optical Power Calibration) engine interfaced with the write strategy table, the OPC engine operable to determine a write strategy for an optical medium from the write strategy table (see Figure 27). Kurobe does not disclose plural test writings or averaging of the test writings to modify the original laser power.

Masaki discloses an optical device in which OPC is performed and used to adjust the determined write strategy's write power setting by performing test writes and reads at plural distributed locations of the optical medium, determining the power setting at each location that had the lowest read amplitude and jitter variations, and averaging the

determined power settings to determine the adjusted write power setting (see Figures 12, 17, and 18B).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording device as disclosed by Kurobe with the plural test writing and averaging as disclosed by Masaki, the motivation being to better configure the power settings of the optical recording laser to write on the various surfaces of the optical disc.

Regarding claim 19, Kurobe and Masaki disclose all of the limitations of claim 18 as discussed in the claim 18 rejection above. Kurobe further discloses that the determined write strategy for the optical medium comprises a generic write strategy associated with unrecognized identification codes (see generic write strategies in Figure 6).

Regarding claim 20, Kurobe and Masaki disclose all of the limitations of claim 18 as discussed in the claim 18 rejection above. Kurobe further discloses memory interfaced with the OPC engine and operable to store the adjusted write power setting for use with a write to a subsequent optical medium having the same identification code (see page 21, paragraph 0241 – note that the document refers to the ROM, Figure 1, element 17b, when the RAM is clearly marked as element 17b in Figure 1 – the Examiner will interpret this to mean RAM as depicted in Figure 1).

Claims 10 and 13-20 are rejected for the same reasons as discussed in the previous Office Action, filed on 2/21/2007 (see Response to Arguments).

4. Claims 4, 5, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurobe et al. (hereinafter Kurobe – US Doc. No. 2006/0067190 A1) in view of Masaki et al. (hereinafter Masaki – US Pat. No. 6,526,014 B2) and further in view of Nadershahi (US Doc. No. 2004/0130993 A1).

Regarding claim 4, Kurobe and Masaki disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above. Both Kurobe and Masaki fail to disclose DVD-RW and DVD+RW optical disc formats.

Nadershahi discloses an optical device that performs OPC for many formats including DVD-RW (page 1, paragraph 0018).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording device as disclosed by the combination of Kurobe and Masaki (discussed above) with the OPC on several formats as disclosed by Nadershahi, the motivation being to allow for compatibility with many types of optical media.

Regarding claim 5, Kurobe and Masaki disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above. Both Kurobe and Masaki fail to disclose DVD-RW and DVD+RW optical disc formats.

Nadershahi discloses an optical device that performs OPC for many formats including DVD+RW (page 1, paragraph 0018).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording device as disclosed by the combination of Kurobe and Masaki (discussed above) with the OPC on several formats

as disclosed by Nadershahi, the motivation being to allow for compatibility with many types of optical media.

Claims 11 and 12 are rejected for the same reasons as discussed in the previous Office Action, filed on 2/21/2007 (see Response to Arguments).

5. Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurobe et al. (hereinafter Kurobe – US Doc. No. 2006/0067190 A1) in view of Masaki et al. (hereinafter Masaki – US Pat. No. 6,526,014 B2) and further in view of Stan (WO 2003/091935 A3).

Claim 21 is rejected for the same reasons as discussed in the previous Office Action, filed on 2/21/2007 (see Response to Arguments).

Response to Arguments

6. Applicant's arguments filed 5/15/2007 have been fully considered but they are not persuasive.

Applicants, on page 6 of the Remarks filed on 5/15/2007, argue that the references used by the Examiner do not disclose averaging power settings at several locations to adjust the write strategy. The Examiner respectfully disagrees. Examiner again asserts that Figures 12, 17, and 18B of Masaki clearly show that power readings are taken at an inner, intermediate, and outer area of the disk and that these reading are averaged to adjust the recording power (see especially Figure 17, step S3).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

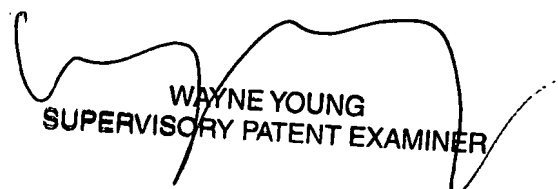
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 7/6/2007



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER